

Living and Sustainability: An Environmental Critique of Design and Building Practices, Locally and Globally

1. Paper / Proposal Title: Practicing facade renovation of Danish buildings built between 1960 and 1980

2. Format: Written paper

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5. Abstract (300 words):

A multi-angled facade system may be defined as the use of two or more different orientations of glazing in each façade. With the appropriate window properties and solar shading control systems such facades may improve the energy efficiency and the indoor climates of buildings. The system potentially has considerable visual, optical and functional benefits for the users of the building also in the case of building renovation.

Multi-angled facades will in most cases aesthetically differ a lot from the urban context in which it is implemented. This paper focuses on the use of multi-angled facade

systems in specific urban contexts and analyses its architectural relations to other surrounding buildings and how this is perceived.

A qualitative research/ phenomenological method is applied to provide a deeper understanding of implementing this facade system on an existing building, and to investigate what are the impacts of this case or phenomenon in an urban context. The research also uses a simulation research method to visualise an office building having been renovated with a multi-angled facade system, using the software packages AutoCad, 3D Max and Photoshop. The simulation is made in 3 specific urban contexts, all in Copenhagen: A dense and traditional part of the city; A dense and modern part; And a less dense area with modern, detached buildings.

The aim of the paper is to structure and qualify discussions about and architectural evaluations of the use of multi-angled façades in given urban contexts to further the implementation of sustainable solutions in ways that may architecturally improve the local environment.

6. Author(s) Biography (200 words each):

Loay Akram Hannoudi is a Ph.D. student at the Department of Architecture, Design and Media Technology at Aalborg University. He is making researches about creating a harmonisation between the aesthetic values of architects and the disciplines of engineers in facade renovation. Loay Hannoudi has a Bachelor and a Master degree in Architectural engineering from the Technical University of Denmark and also a Bachelor of Architecture.

Loay has made some engineering studies focusing on analysing different scenarios for the facade renovation of Danish office buildings built between 1960 and 1980. He worked also on developing special facade configuration like Multi-angled facade system with a focus on both technical and aesthetic aspects.

Loay has worked on some architectural studies like analysing architectural qualities of office buildings built between 1960- 1980, seen in a contemporary sustainable perspective. He has made a lot of interviews with different Danish architectural firms focusing on practising building facade renovation both from the technical and aesthetic point of view.

Besides his works on researches, loay is an active athletic and he uses some of his time in playing tennis and swimming. He has also a lot of artistic interests and has made a lot of oil and watercolour painting and ceramic pieces.